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A Dynamic Model of Interdisciplinarity

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Zusammenfassung

Juristen, die in der Rechtspraxis tätig sind, werden immer mehr mit Erkenntnisansprüche aus anderen Disziplinen, wie der Psychologie, der Soziologie und der Mathematik, konfrontiert. Obwohl die richtige Ausbildung dazu in den meisten Fällen fehlt, versuchen sie diese Ansprüche zu Erkenntnis zu nehmen und irgendwie im Recht einzuordnen. Auch in der heutigen Rechtswissenschaft findet man, neben der traditionellen dogmatischen Forschung, oft interdisziplinäre Ansätze. Diese Entwicklung wirft verschiedene prinzipielle Fragen auf. Wie kann man als Jurist Information aus anderen Disziplinen erfassen und beurteilen? Wie kann man weiterhin diese Information mit rechtswissenschaftlichem Erkenntnis verknüpfen? Lassen die Begriffe und Methoden, die in einer Disziplin entwickelt sind, sich einfach auf eine andere Disziplin übertragen? In diesem Beitrag werden vier unterschiedliche Formen interdisziplinärer Forschung in der Rechtswissenschaft unterschieden und mögliche Probleme fundamentaler Art, die damit verbunden sind, identifiziert. Anschliessend wird gezeigt, wie man diese Probleme auf pragmatische Weise annähern kann und wie man aus den verschiedenen Formen interdisziplinärer Forschung eine wohl überlegte Wahl machen kann.

1. Crossing Borders

Law is a peculiar subject to study. It has its own organizations and institutions, professionals, texts and vocabulary; these are all attributes that mark it as a specific domain. But whenever you open a newspaper or engage in a social activity, you cannot avoid to stumble upon law. As scholars of law, we are trained to notice the particular nature of the domain and the way law brings a particular perspective to everyday life, transforming it into something that is legally relevant. Thus, we learn to think like a lawyer and, in the process of studying law, to participate in the legal discipline.

As an academic discipline rather than as a domain of society, law is similarly marked by a particular language, methods of research, and problems to be researched. How to ensure equality of arms in the courtroom, the impact of changed circumstances on the meaning of a contract, the legal limits on the powers of administrative agencies: an endless list of topics can be made that are squarely within the discipline of law as traditionally understood. Over the past decades, however, legal scholars have become increasingly dissatisfied with a purely legal approach and are attending to other disciplines to enlarge their scope.

Many research topics that seem legal at first sight turn out to have non-legal dimensions on closer consideration, dimensions that require a move into the territory of other disciplines. When this happens to you, there are a number of options. You

can reformulate your research question in such a way that the interdisciplinary component of the research disappears. In other words, you decide to stick to a strictly legal approach. There is nothing wrong with that as such, but you may miss the opportunity to explore new ground and to discover new things. Or you can simply head for the library and see what you can find that relates to your topic. That strategy will probably yield piles of books in which you can barely locate what is relevant. Since you are working in a very haphazard fashion, you may risk to find nothing of interest or to miss the most important publications. Or you can approach it in a more methodical way, by first identifying the relevant discipline(s), finding out what the basic features of that discipline are, and then searching for the relevant material.

The purpose of this paper is to distinguish various types of interdisciplinary research and to identify some of the more fundamental problems that one has to deal with when combining different disciplines. In section 2, we will provide a model to understand the different ways in which an interdisciplinary research project can be set up, mapping the differences according to the extent of the interdisciplinary work in a project. The degree to which an interdisciplinary component is part of a research project largely determines what kind of problems you may encounter and how seriously you should take these. However, the seriousness of the problems and the way you deal with them does not only depend on the kind of interdisciplinary work you plan on doing. It is also dependent upon your view of what science is and what scientific disciplines are. Because such views, one's philosophy of science, will usually be implicit, we will sketch some central issues you need to be aware of. In section 3 we will highlight some of the common problems of interdisciplinary work and we will give some practical recommendations how to address them. Finally, in section 4, we will demonstrate how one can make a prudent choice between the different types of interdisciplinary research.

2. A Dynamic Model of Interdisciplinarity

When we consider the ways in which a researcher may engage in interdisciplinary research, the possibilities are numerous. In order to map the practice of interdisciplinary research in a systematic way, we can construct a dynamic model of interdisciplinarity.¹ We believe a typology of research can be made on a scale which is based on how extensive the input from other disciplines in a research project is. This means that we first need to identify the elements that determine the perspective of a particular discipline in order to assess how far the interdisciplinary work moves beyond the single discipline.

The first, most conspicuous, feature of a discipline is the particular set of *concepts* it uses and the way it uses these concepts. The core concepts of disciplines differ, and even if they do use similar concepts, the interpretation they give to them differs. The second element consists of the *methods* used by a discipline. A method can be described as a structured and established way of acquiring knowledge. For instance, in order to determine the temperature, meteorologists (as well as people in everyday life) use a thermometer. Although many disciplines use a variety of methods, there are always a few favoured methods that are characteristic of a discipline. Again, even if such methods are broadly shared

¹ The following typology owes much to discussions with Professor W. van der Burg who proposes a similar typology (Van der Burg 2008).

with other disciplines, the way a discipline uses and develops them is distinctive. For example, textual analysis is a core method for legal scholars and literary scholars alike, but the actual analyses in practice are very different. Whereas literary scholars compete to find the most original interpretation, legal scholars usually try to remain faithful to the original intent of the law drafters. Some of these differences derive from the other elements that characterize a discipline. The third element is the *object* of the discipline: the aspect of reality or experience that is studied. For some disciplines, the object is the clearest indicator of the boundaries of the discipline; think of astronomy or archaeology. For other disciplines, however, the character or scope of the object is contested, law being among these. Legal scholars differ fundamentally on the issue what it exactly is that they are studying. The fourth element is what we would like to call the *problem awareness* of a discipline and the resulting problem definitions. Different disciplines perceive different problems. This also explains the different approaches to the same basic object; for example, the human body as an object of research is approached differently by biology, medicine or anthropology. A medical scholar might be interested to find the cause of a certain mortal disease and there she has to make a thorough internal investigation of the body. An anthropologist, on the other hand, is not interested in physical processes but wants to understand why people in a certain group deal with sickness and death the way they do (e.g., why they have certain rituals for caring and burying). For that matter, it is more relevant to observe outward behaviour and ask people about their inner motives. The fifth element is the research goal or goals pursued by a discipline. A common distinction is that between descriptive and evaluative research: the first aims at a correct description or explanation of a phenomenon, the second at a normative evaluation. To take law and sociology as an example: both sociologists and lawyers take law as an object of research, but sociologists claim to do no more than describe how the legal system works in reality, while lawyers evaluate the legal system in terms of legality, appropriateness, or coherence.² Moreover, disciplines or different approaches within a discipline may also differ with respect to the goal or goals connected to the description or evaluation. For instance, a socio-legal description of court proceedings may aim at understanding the inner motives of the legal actors involved or at explaining their overt behaviour. Similarly, evaluation of an existing legal rule may be done for the purpose of improving the rule.

The five characteristics of an academic discipline enumerated here are not the only characteristics that form disciplines. These five are characteristics that are important from the perspective of one's philosophy of science; they are characteristics that become apparent when you ask yourself how the concept of a discipline is related to the concept of scientific research. In addition, a common way of understanding a discipline is from the perspective of the sociology of science. Sociologically, disciplines are characterised by the interactions of the groups of people engaged in the discipline, e.g. by the way newcomers are educated and socialised into the norms of the group, or by the hierarchy within research organisations such as university departments (which are often organised along

² Although this is a common way of describing the difference, not everyone agrees. There are sociologists (e.g., Selznick) who also think it is their task to evaluate (especially the success of law in coping with societal problems, see for instance Selznick 1992) and there are lawyers who think their main task is the description of legal norms (e.g., Kelsen 2003). We will return to this topic in the next section.

disciplinary lines) and the pressures that arise from such organisational hierarchies.³ In this chapter we will put the emphasis on the philosophical characterisation of disciplines – in terms of the concepts used, the methods applied, the goals pursued and so on (as opposed to the discipline's social organisation) – because those characteristics are closely related to the theoretical problems of interdisciplinary research.

Using the five determining elements explained above, we may describe different types of interdisciplinary legal research as moving from a monodisciplinary towards a fully integrated interdisciplinary perspective. The most important issues arising in the practice of interdisciplinary research relate to the problem definition (Is there a collaboration between disciplines on the problem definition?) and to the concepts and methods of the different disciplines (How is the research itself conducted?).

TYPE 1: HEURISTIC

The first type of legal research that moves beyond the discipline of law is research that uses other disciplines *heuristically*. In such research the legal discipline provides the problem definition, but the researcher looks for useful material in another discipline. Once relevant material is found, the researcher incorporates that material in a legal argument. The other discipline is used only as a source of argument or inspiration. An example of this type is the way great books are often used in law and literature research by lawyers. A lawyer might use *Bleak House* by Charles Dickens to argue that legal procedures have an alienating effect on ordinary people. In itself, the claim distilled from the novel is not a valid argument in legal research: such a claim would still need to be justified within the discipline of law, on the basis of recognizable legal concepts, to be recognized as a legal argument. For the heuristic type, the perspective of the research as a whole remains within the legal framework.

TYPE 2: AUXILIARY

The second type of legal research uses other disciplines as *auxiliary* disciplines. The legal researcher defines a problem, which he cannot solve with legal methods only, so that there is a need for input from another discipline. Most often there will be a reason for that problem that is external to the legal framework, which is perceived as demanding a legal response. In this type of research, material derived from the auxiliary discipline serves as a necessary contribution to the legal arguments. The validity of the contributing argument is not determined in terms of the legal discipline only: it needs to be a valid argument within the auxiliary discipline itself. This type is exemplified by research that uses material from an empirical science. For instance, research in environmental law may use biological research to argue for the protection of ecosystems instead of the protection of separate species in legislation. In order to make valid use of that argument within law, the interdependence of species within ecosystems needs to be an accepted view within the field of biology. However, the conclusions of such research are still legal conclusions. They will concern the regulation of ecosystem protection, and they will not include independent claims on

³ Most of the authors discussing interdisciplinarity use both philosophical and sociological criteria to characterise disciplines, see e.g. Balkin (1996, 954-957) and Vick (2004, 167-170).

the biological issue of ecosystems. The research from the supporting discipline is only one element in a larger legal framework.

TYPE 3: COMPARATIVE

The third type of research is *comparative*, treating two disciplines as equally important perspectives. In such research, each of the disciplines provides a definition of the central problem. There is no dominant perspective, and the core of such research is a comparative study of the two disciplines. This type can be best understood by using the parallel of comparative law. According to radical theorists of comparative law, such as Pierre Legrand, comparing entails immersing oneself in the cultures of both legal systems. The perspective of a whole legal culture, or in our case, a whole discipline, needs to be included in order to make an even comparison between two disciplines possible. In this type of research, the whole research process is doubled: from problem definition to conclusion, the two disciplines work within their own terms. Such comparative research is an attractive model if a research group with participants from different disciplines can be formed: each researcher brings in a complete disciplinary framework and has a primary interest in justifying the research project in his own terms.

TYPE 4: INTERDISCIPLINARY

The fourth type, *interdisciplinary* research, then moves from the side-by-side comparison to integration of perspectives. Primarily, this means that interdisciplinary research starts with a joint problem definition and ends with a conclusion that is justified for both disciplines. However, to what extent the whole research process can be integrated is debatable. Of the theorists who think interdisciplinary research is possible, not everyone has the same view of the extent to which interdisciplinarity can be achieved.

TYPE 4A: PERSPECTIVIST

As a first subtype, we may distinguish interdisciplinary research as *perspectivist*.⁴ Such research switches between two disciplines, using the concepts and methods of each. The conclusions will also be perspectivist: there is not a coherent single answer, but a necessary co-existence of two disciplines. Neither discipline can provide the whole answer, nor can the disciplines give up their own framework. An example of perspectivist research is the research into violence by Kees Schuyt (Schuyt 2003, p. 87-89). Schuyt argues that violence has been studied extensively from a monodisciplinary point of view, but cannot be completely understood either from a psychological, a sociological or an anthropological perspective. All three disciplines, and more, are necessary for a complete understanding. Schuyt proposes a theoretical framework in which each discipline has its place: ranging from the explanation by personal factors to intercultural factors. A switch in perspective seems necessary to move from one layer in the framework to the next.

TYPE 4B: INTEGRATED

As a second subtype, interdisciplinary research can be seen as *integrated interdisciplinary research*. In this case, the research process itself contains elements

⁴ A term explained in Van der Burg (2007, p. 2).

from both disciplines and the researcher welds together the concepts and methods from each or applies a more general methodological approach to both. Application of the general methods of hermeneutics to both law and philosophy might serve as an example of the latter. An example of the integration of elements from two disciplines may be found in James Boyd White's research in law and literature. He brings together concepts and methods from the legal and the literary perspective to create a new approach to both legal and literary texts.

Although integrated interdisciplinary research is the most extensive form of combining disciplines in research, we may question whether this type of research remains *interdisciplinary*.⁵ This is one of the main reasons why the model is a dynamic model: the practice of research moves on and the relationships between disciplines change continually. If we look at historical developments of scientific disciplines, it is clear that these are not stable. At times, a segment of an existing discipline may branch off to form a new one, as, for example, psychology separated from philosophy at the end of the nineteenth century. The result of integrated interdisciplinary research may also be the birth of a new discipline. For instance, we may argue that history of law and sociology of law have developed concepts and methods that are their own and that they can be regarded as a new specialized discipline. Such a development not only takes time, but also requires a favourable institutional setting: there needs to be a substantial group of people working in the field, support from academic organizations, and so on. For many other fields of interdisciplinary research, the question at this point in time is whether the conditions are favourable for the development towards a new discipline. In some instances, it seems that combining law with another discipline does not move towards integration, but slides into a subordination of law to the other discipline.⁶ For instance, certain branches of law and economics research seem to use law only as input for economic research and deliver conclusions that remain alien to the legal field, for instance by requiring that the legal system should be more efficient. Here, the result of the dynamic of interdisciplinary research may be a position for law as a supporting discipline.

3. Limits and Possibilities of Interdisciplinary Research

In the description of the fourth type, truly interdisciplinary research, we already indicated that the extent to which interdisciplinary research is deemed possible depends upon one's view of disciplinarity and one's characterization of the closed or open nature of the legal discipline. In this section, we will discuss some of the major theoretical issues that arise in the context of the different types of interdisciplinary research. For these issues no easy solutions are available. Since they touch on fundamental convictions about the nature and purpose of science, different scholars will inevitably have different views on these matters. We will focus on five controversial issues:

- A. How to distinguish between true and false statements?
- B. Does science have to aim at explaining or at understanding phenomena?
- C. Can facts and values be separated?

⁵ Some theorists, like J.M. Balkin, deny that integrated interdisciplinary research is possible. Balkin (1996) sees the dynamic of disciplines as a move from a supporting relationship to a change of the discipline or possibly the formation of a new discipline.

⁶ A phenomenon that resembles what Balkin (1996, pp. 960-961) refers to as colonization.

- D. Is it possible to transfer concepts from one discipline to another?
- E. Is science a quest for knowledge for its own sake or does it have to be socially relevant?

After having presented these issues, we will give some practical guidelines how to deal with them. We do not intend to solve these matters once and for all – as if we were able.

A. TRUTH

Many of the discussions about the possibility of interdisciplinary research stem from the divergence of views on what academic disciplines are. The more narrowly one defines the object, concepts and methods of a discipline, the more impenetrable the boundaries between disciplines appear. Of course, a particular conception of a scientific discipline is tied to an idea of what science is about, what true knowledge is, in short, to a philosophy of science. In different disciplines different views are prevalent. So when you are doing multi- or interdisciplinary research you may encounter the problem that you have to 'prove' your claims according to different, possibly incompatible, notions of truth. In other words, how can you convince scholars from other disciplines that what you are saying is true?

In the philosophy of science, one of the perennial problems that philosophers specialise in is the notion of truth. We easily say that the common goal of all scientific research is to add to the body of knowledge. But what is knowledge? How do you know whether a scientific statement of fact or a theory is true? There is an enormous range of theories about truth, from a Platonic world of true ideas to a relativistic notion of truth as a cultural construct. However, we can make a rough distinction in modern theories of truth between correspondence theories and coherence theories.

Correspondence theories of truth reflect our daily, uninformed notion of truth as corresponding to reality. A statement is true if it correctly reflects the facts in the world.⁷ The truth of a scientific theory is then determined by checking whether it fits the facts. Coherence theories of truth start at the other end: a statement is true if it does not contradict and is substantially in accordance with the widest possible range of other statements. Coherence theories do not pronounce a direct verdict on the reality of the world 'out there' but use both factual and theoretical *beliefs* as the basic input.⁸ The reason to adhere to a coherence theory is that it has proven immensely difficult to determine what reality is. A correspondence theory needs to define reality, but our only access to reality is through our own observations and calculations. In a sense, you can never know for sure what is real. On the other hand, it seems strange to let go of all reference to the real world. Intuitively, there is an immense difference between the statement of fact that a person is dead, when you can observe that the body of that person is cold and no longer breathing, or the statement of a legal theory of criminal intent (*mens rea*), the idea that in order to be guilty of a crime someone must have had the intention to commit it. The first statement seems verifiable, while the second cannot really be proven. There are different solutions for acknowledging such differences. One is by regarding both facts and theories as provisionally true:

⁷ This view is usually attributed to Russell and Moore. Russell (1980, p. 75) simply defined truth as follows "Thus a belief is true when there is a corresponding fact, and is false when there is no corresponding fact".

⁸ An influential coherence theory in practical philosophy is the theory of reflective equilibrium, first developed by John Rawls (see Daniels 1980).

we may assume that a statement is true as long as it is not proven to be false.⁹ Another solution is to combine elements of coherence and correspondence theories in a pragmatic way: without actually claiming that factual beliefs correspond to a given reality, one can treat the coherence of those beliefs with each other and with others as a sign that there is good reason to believe in such a reality.¹⁰ Whether you need to have a well-argued view on issues of truth very much depends on its relevance to your research; it is more important when you conduct scientific experiments than when you devise a new theory on the principles of legality. You should, however, be careful in claiming too easily that some of your conclusions are supported by the facts.

C. FACT/VALUE SEPARATION

Another distinction that is sometimes used to differentiate between different types of scientific research is that between fact and value. According to some scholars, a distinction can be drawn between empirical sciences that are concerned with facts on the one hand and normative disciplines that deal with values on the other hand. Empirical sciences, among which the natural sciences, observe how things are, whereas normative sciences, such as ethics and the science of law, are concerned with how things should be. Disciplines belonging to the humanities can be placed on either side of the spectrum: for example, history and linguistics can be considered as empirical sciences because they describe factual events and language rules respectively; a large part of theology, on the other hand, is a normative science when it prescribes how people ought to behave according to rules and principles extracted from the Bible (or other holy texts). The same goes for the social sciences, depending on whether the emphasis is laid on factual description (as in most economic or psychological research) or evaluation (as in gender studies). It is important for legal scholars engaged in multi- or interdisciplinary research to be aware of this distinction, as well as the debate it caused because, among other things, it is not obvious that normative claims can be drawn from empirical data. E.g., from the fact that a certain legal procedure is not efficient it does not necessarily follow that the procedure has to be changed; there can be other reasons to keep it as it is, reasons of fairness for example.

In one of the first academic debates on the limits and possibilities of interdisciplinary research into law,¹¹ Hans Kelsen accuses Eugen Ehrlich of fusing empirical and normative statements about the law. In his 'pure' theory of law, Kelsen tries to construe a solid scientific foundation for the science of law in order to secure its position among other sciences, in particular the natural sciences (which continues to be the generally accepted prototype for 'true' science¹²). For that purpose, the question has to be answered what is typical or unique about the way the science of law understands its object and how it differs from other understandings.

⁹ This is the basis of Popper's theory of science, which still informs many of the models of science used today, although Popper's theory is not a theory of truth strictly speaking. Popper's so-called falsificationism holds that a scientist should devise hypotheses in such a way that they can be falsified, i.e. proven not to be true. As long as you do not succeed in disproving the hypothesis by observation or experiment, it can be regarded as true.

¹⁰ For example, the theory of Donald Davidson (1990).

¹¹ See Ehrlich & Kelsen (2003), discussed by Van Klink (2008).

¹² Newspapers that publish scientific news on a regular basis, tend to focus on the supposedly harder sciences, such as chemistry, biology and archeology, at the cost of the humanities.

Kelsen argues that the phenomenon of law can be studied from two different perspectives. On the one hand, the law can be conceived of as a norm, that is, a rule that articulates a specific kind of 'ought' (*Sollen*): something *has* to be done or not be done. On the other hand, the law may be taken as a part of social reality, as a fact or an occurrence that takes place regularly. Here, the law takes the form of an 'is' (*Sein*) proposition with respect to human behaviour: some action *is* done or not done on a regular basis. These two perspectives correspond with two different disciplines from which law can be studied: respectively, a *normative* science of law that determines deductively which rules are valid, and an *explanatory* sociology of law that establish inductively a certain regularity for which it tries to find a causal explanation. Thus, in Kelsen's view, the science of law is a normative and deductive science of value, like ethics and logics, whereas the sociology of law, like other branches of sociology, is a science of reality, and conforms more generally to the methodological practices of the natural sciences. It is equally possible and legitimate to study law from both perspectives, but not at the same time. An object cannot be construed as something that is done or happens regularly and that ought to be done or happen simultaneously. Biology, as an explanatory science, may establish a causal link between two factual occurrences (e.g., between firing a gun and somebody's death), but is not capable of evaluating this link in terms of good/bad or legal/illegal. Conversely, ethics and the science of law, as normative sciences, may dismiss a certain action (e.g., killing someone by firing a gun) as bad, if it violates an ethical norm, or illegal, if it violates a legal norm; however, they are not able to explain this action, that is to give reasons why and how it happened. According to Kelsen (2003, 5), combining perspectives from different disciplines would lead to an unworkable fusion and confusion of methods.

This strict fact-value separation is rejected by scholars adhering to other, non-positivist scientific approaches, in particular hermeneutics and pragmatism. A forceful pragmatist defense of the inseparability of facts and values is provided by Hilary Putnam. According to him, knowledge of facts presumes knowledge of values and, vice versa, knowledge of values presumes knowledge of facts (Putnam 1995, 14). There is no neat division between the factual characterization of behaviour — 'what you just did was rude'— and evaluation of that behaviour — 'being rude is bad' (Putnam 2002, 36). Factual and value judgments go together, which can be most clearly shown by looking at criticism of a judgment. The typical way someone denies that his behaviour was rude, for example, is by appealing to facts which change the judgment of the situation: "My behaviour may have seemed rude, but I could not stop and talk to you because I was late for a meeting." This view derives from the basic pragmatist presumption that we find ourselves in the middle of our own experience, in the middle of a world in which fact and value, natural and social factors are not distinct nor neatly categorized (Dewey 1989, 352). If this experience of the world is taken as the starting point for our quest for knowledge, the world appears as a whole: distinctions are made for special purposes but do not reflect essential truths. Although we can in principle distinguish factual judgments from evaluative judgments, many of those judgments are mixed and there is not a clear separating line between the two categories. In his hermeneutic philosophy of law, Ronald Dworkin also rejects a strict fact/value distinction. According to him, statements about what the law is have both a factual and an evaluative dimension because they have

to fit the existing system of law and present it in the most attractive way at the same time (Dworkin 1991, 230-231).

D. TRANSLATABILITY OF CONCEPTS

Every discipline has its own specific vocabulary to describe, explain and/or evaluate the phenomena that it is investigating. Different disciplines use different concepts and it may be very difficult, if not impossible, to transfer concepts from one discipline to another. Concepts that are current in one discipline do not always make sense in another discipline. For instance, it would be very odd for legal scholars to analyze the law in terms of its linguistic categories, as linguists would do, or to describe the legislative process as a 'ritual', as anthropologists might do. Conversely, medical scholars have no use for legal notions such as 'ownership' or 'property right', when analyzing human bodies. If it is possible to transfer some concepts, the concepts involved may acquire a new meaning in the target domain that differs from the meaning they originally had. It also occurs that, although no explicit transfer has taken place, different disciplines use the same (or similar) concepts but understand them in different ways. In linguistics, this is called the problem of *false friends*: concepts may look similar, but in fact they mean something else. In English, for example, 'gift' means 'present', whereas in German it means 'poison' and in Dutch it can be both. Likewise, legal scholars and sociologists may have very different understandings of validity: a legal norm is called 'valid' in the traditional juridical sense, when it is created in a lawful way and in accordance with higher legal norms. For sociologists, however, this is usually not enough: a legal norm must be applied and obeyed in society in order to be valid in the sociological sense; otherwise it is just a rule on paper.¹³ Therefore, every scholar who is involved in multi- or interdisciplinary research has to be very careful when transferring concepts.

Roughly speaking, there are two ways of looking at the translatability issue, either from a realist or from a nominalist point of view. In a realist perception, concepts refer to objects or entities that exist in real life.¹⁴ Words and things are essentially connected and, therefore, concepts are not easily interchangeable or transferable from one domain to another. Different words denote different things and if, by accident, the same concept is used in different domains we must check carefully whether it is really the same thing that is being referred to. In a nominalist view, on the contrary, concepts are seen as mere constructions, that is conventional and convenient ways of expression (see, e.g., De Saussure 1972). Since there is no essential connection between words and things, we may use different words for the same thing or the same word for different things. Although a realist view does not completely rule out the possibility of exchanging concepts between disciplines, it does pose a strict limitation thereto: concepts can only be transferred if we can be sure that in reality it is the same thing that we are talking about. Nominalism, which certainly in the humanities is the dominant view, seems to allow for a more liberal border politics between disciplines. However, it must also recognize some limits to the exchange of concepts. In particular, basic (linguistic and other) conventions have to be respected in order to avoid conceptual confusion. If a discipline only focuses on outward behaviour (like behaviourism in the social sciences), it does not make

¹³ See the Ehrlich-Kelsen debate mentioned above.

¹⁴ For a contemporary contribution to the realism debate, see Douven & Horsten (1996).

sense to invoke notions which refer to mental states, such as consciousness, motives and intentions.

E. FUNDAMENTAL vs. APPLIED RESEARCH

Finally, controversy may arise around the question whether scientific research should be fundamental or applied. Fundamental research is concerned with the quest for knowledge for its own sake, without having to worry too much about its practical relevance. In applied research, knowledge is acquired and used for the benefit of society. Some disciplines carry out only or predominantly either fundamental research (such as mathematics, archeology and history) or applied research (disciplines that focus on a specific theme related to policy issues, such as public administration, business administration or environmental studies), while others show a mixture of both (such as medicine, biology and ethics). The science of law belongs to the latter category, but the practical and fundamental approach do not always live peacefully together. Traditionally, legal scholars consider it to be one of their main tasks to inform legal practitioners about the content of the law and to comment on new drafts and court decisions. However, some legal scholars have claimed recently¹⁵ that this practical orientation has hindered the study of law in becoming a 'real' science. In defense, it has been argued that there is no point in carrying out legal research without any apparent practical relevance.

In connection to this issue the question has been raised whether legal research should engage in the critical activity of challenging the powers that be and supporting the less powerful – such as women, black, indigenous or handicapped people, refugees and so on – in their fight for political and legal recognition. In the Marxist tradition, a distinction is drawn between traditional and critical theory: whereas traditional theory sustains the existing power structure in society (that is, the status quo), critical theory is designed "to liberate human beings from the circumstances that enslave them" (Horkheimer 1982, 244). In gender studies, court decisions and statutes are analyzed critically in order to reveal and undermine the gender bias of the law as it is which supposedly favors men at the cost of women and other people who do not fit the dominant 'white male standard' (see, e.g., Butler 1999). According to the so-called traditionalists, critical theory is nothing but political activism under the pretext of science.

The academic debate on the aims of legal research (and academic research in general) is highly influenced by the way academic research is funded by the Government in different countries nowadays. Because faculties of law have to rely increasingly on contract research, legal research becomes more practice-oriented and applied. In contract research, the contractor or 'client' (for instance, a ministry or a municipality) hires legal scholars to answer some questions that have arisen in legal or political practice. Thus, the research agenda – including the research questions to be addressed and sometimes even the possible answers – is to a great extent determined by people from outside the academic world. Some legal scholars welcome contract research, because it increases the practical relevance of legal

¹⁵ In the Netherlands, a Commission chaired by Jan Smits published a report entitled *Towards Key Performance Indicators for Scientific Legal Research (Naar prestatie-indicatoren voor rechtswetenschappelijk onderzoek)*, VSNU 2007, available at: <http://english.vsnul.nl/web/show/id=98846/framenoid=39657/langid=43>.

research. Moreover, they do, generally speaking, reject a strict separation between fundamental and applied research. In the ideal case, both types of research reinforce each other: applied research cannot be carried without a solid theoretical foundation, whereas the theoretical presuppositions underlying fundamental research are being tested by applying them to practical issues. Other scholars, however, consider this development to be a serious threat for the independence and academic quality of scientific research.

When doing multi- or interdisciplinary research you can easily encounter one or more of these fundamental issues. In discussions on the reliability of evidence in penal cases, for instance, scholars from different disciplinary backgrounds appeal to different notions of truth: psychologists tend to demand hard empirical evidence for testimonies, whereas most legal scholars as well practicing lawyers are already satisfied with probability in a common sense understanding. Social scholars who are trained in doing empirical research sometimes find it difficult to engage in normative discussions. By training, they care more about facts than about values. If you try to combine insights from different sources in your research, you will discover that they are not always compatible with each other because – among other things – they may be based on different, factual or normative, presumptions. For example, when you try to import economic notions into your legal research, the question arises whether they are relevant for understanding and evaluating the law. Does the law have to provide for the most efficient solution? And how does the economic value of efficiency relate to legal principles such as equality and legal security? Another source of incompatibility may be that different disciplines highlight different aspects of the same phenomenon. Traditional legal research focuses on the content of legal norms and the systemic interconnection between legal norms, whereas the sociology of law deals with the way they affect social life.

How to deal with these issues? To begin with, you should be aware that multi- and interdisciplinary research always raise fundamental questions on the nature of scientific research in general. By ignoring these questions, they will not disappear. So, in one way or another, you have to confront them. Subsequently, it is very important that you are as clear and explicit as possible on the choices you have made. For instance, if you want to assess legal evidence, you should clarify on the basis of which standards you establish the truth of certain data (such as witness testimonies). Moreover, you should explain why these standards, in your opinion, are better suited for assessing legal data than other standards, which may be derived from a different notion of truth. The same applies to the method (or methods) that you use: describe your method and justify why this method, in your view, is the most fitting for answering your research question. It is also important that you define the basic concepts of your research as precisely as possible and that you show how your understanding of the concepts relate to other understandings in other relevant disciplines. Furthermore, you should clarify the aim or aims of your research: do you intend to carry out fundamental or applied research, or a combination of both? Finally, you should avoid becoming too much entangled in philosophical matters. Sometimes fundamental issues are at stake on a theoretical level, but in practice choosing one approach or the other need not have serious consequences. For instance, though realism and nominalism may differ fundamentally in their view on the translatability of concepts (both on a theoretical level and in concrete cases), both

positions require that you clarify your basic concepts. Other times there seems to be a fundamental issue at stake, but at a second glance it appears that different disciplines are focusing on different aspects of the same phenomenon, so what they are claiming does not always have to be incompatible (e.g., legal norms can both be legally valid in a juridical sense and socially invalid in a sociological sense).

4. Interdisciplinary Research: Choosing your approach

How to choose between the different kinds of research? Depending on the type of questions you want to answer and one's own interests and capacities, you can decide either to stick to traditional monodisciplinary research, possibly with heuristical or more substantial input from another discipline, or to adopt a comparative or interdisciplinary approach. Fundamental choices and beliefs in particular with respect to truth, the nature of concepts, the relation between facts and values, the aims of scientific research (see section 3), determine the place that interdisciplinarity can have. In our view, taking a particular approach to the nature of science is inevitable, a choice which entails the extent of interdisciplinary work that fits that particular perspective on scientific research. However, every approach has its possibilities and limitations. In our concluding remarks, we will discuss briefly the main advantages of different types of research, as described in our dynamic model of interdisciplinary (section 2), and the most important challenges or risks each of them faces.

(i) To begin with, monodisciplinary research into law consists in the collection, analysis and systematization of legal norms that are promulgated by the legislature and applied by the courts, in many cases together with an assessment thereof on the basis of legal or other (e.g., political, ethical, or sociological) standards. Traditionally, it has always been the task of the science of law to describe the content of the law in the past as well as in the present. Since the law changes continuously, there will always be enough work for such monodisciplinary research. Different actors in society can profit from the knowledge accumulated by the science of law: from politicians who want to contest the legality of some draft or bill in Parliament to citizens who aim at getting their right before the court. According to Kelsen and other legal positivists, legal science should limit itself to a representation of the legal system as it is and to an assessment of its logical consistency, because otherwise it would lose its distinctive character and thereby its scientific *raison d'être*. However, legal scholars who are working within a natural law or interactionist framework reject a strict is/ought distinction and, therefore, consider evaluation to be an integral part of legal science. Scientifically speaking, a major advantage of a monodisciplinary approach that has been developed and refined over centuries is that a high level of harmonization in concepts and methods has been reached. Legal scholars have created a shared language to describe legal norms and hermeneutic tools to apply them to concrete cases. At the same time, when concepts and methods are more or less stabilized, there will be limited room for innovation. Innovation in the description and application of legal norms is not even considered to be an ideal to strive for within a traditional conception of legal science. Unlike the literary scholarship, legal science is not interested in producing the most creative or original interpretation of authoritative texts but in representing them in the most precise and accurate way. On the contrary, in order to protect the value of legal security, it is important that the legal system is presented as much as possible as a unified and univocal whole. A monodisciplinary approach to law, restricting itself to a representation and evaluation

of the existing body of law on the basis of pre-established concepts and methods, *from a scientific point of view* may not seem very interesting or exciting – despite all its craftsmanship. It does not and does not intend to contribute in any significant way to the innovation of scientific thought.

(ii) More room for innovation is created when a legal scholar turns to another discipline in order to get inspiration. In this case, the source discipline is used as a heuristic device for generating new insights from which the target domain – the legal science – may profit. These new insights will be evaluated according to values and truth criteria internal to the science of law. For instance, philosophical theory may indicate that interpretation of legal texts is never a matter of sheer subsumption but always is a creative process. In order to make this insight acceptable to legal science, it has to be justified in terms of its internal values, such as reasonableness or fairness. However, legal scholars who prioritize legal security over the fore-mentioned values will be inclined to reject this insight. Because external input is controlled by and mediated through internal standards, the heuristic approach has the same advantage as the monodisciplinary approach that it protects the unity of the concepts and methods used. An important weakness of the heuristic approach is, exactly because the external input has to be justified exclusively in internal terms, that the new insights are generated in a non-systematic, accidental and arbitrary way. Anything can be a source of inspiration to the science of law, not only other scientific disciplines but also novels, movies or long strolls along the sea. From the viewpoint of legal science it does not make a difference where the insights are taken from or how they are discovered, as long as they can be justified in legal terms; they have no argumentative force on their own.

(iii) If a legal scholar treats the source discipline not merely as inspiration but as a necessary contribution to the science of law, the transfer of insights may acquire a more systematic and less arbitrary character. That is only possible if one considers the task of legal science to be more than just the representation of the legal system and an assessment of its internal consistency; it should include also the development and improvement of the existing legal system. Otherwise, if legal scholars are seen solely as the bookkeepers of the law, there would be no need for external input. Suggestions for developing and improving the law may be taken from different sources. According to Niklas Luhmann (1981, pp. 294-295), sociology constitutes a „necessary preparatory science for the science of law” that has to pave the way for legal decisions. However, that raises the question why one source domain – in this case: sociology – is favored. Moreover, the problem is how to assess the quality of the external input. One has to be trained in two disciplines to be able to take a stand in debates that take place within these disciplines. If not, one has to rely on authoritative sources, but these may be contradictory. A final risk connected to the transfer of insights from one domain to the other is that the unity of concepts and methods used in the target domain is disturbed. For instance, what will happen when the economic distinction between efficient and inefficient is inserted into the legal vocabulary?

(iv) In comparative research all these risks are duplicated, because the transfer of insights is not one-way, as in the previous approach, but two-way: the disciplines involved are source and target domain at the same time. To be capable of doing this, a scholar has to be at home in both disciplines. If so, he does not have to rely on authorities but can assess himself the quality of the imported knowledge. The

transplantation of foreign terminology into a scientific discourse may lead to misunderstandings (Luhmann 1991, p. 457). Moreover, problems may arise when disciplines produce contradictory insights. From a sociological point of view a legal norm may seem invalid because it is not applied anymore, whereas from a legal perspective the act may still be considered valid law because it was created on the basis of a higher legal norm. In other words, how to secure coherence in knowledge claims in a multidisciplinary approach? At the same time, comparative research offers good opportunities of innovation in the target as well as in the source domain, if a fruitful interaction between the two can be established.

(v) Finally, an integrative approach offers the best opportunity for exchanging knowledge. Science is freed from artificial and arbitrary disciplinary boundaries. However, by transgressing boundaries, disciplines lose their distinct character and may become more and more identical. Moreover, in its effort to see everything from all sorts of perspectives at the same time, an integrative approach may end up in seeing nothing at all. Paradoxically, the more successful an integration of disciplines is, the more it resembles a monodisciplinary approach, with all its advantages and disadvantages.

Initially, we started from a dichotomy between an interdisciplinary or integrative approach to law and a monodisciplinary approach. By distinguishing different types of legal research in our dynamic model of interdisciplinarity, we are in a position to make this opposition less rigid. On the one hand, a monodisciplinary approach to law does not by necessity exclude the possibility that legal science profits from insights from other disciplines, if only in a heuristic way. On the other hand, an interdisciplinary approach that is successful in integrating knowledge from different sources may at some point become a discipline in its own right. With Arbib & Hesse (1986), we believe that a direct and 'full' access to reality is impossible. Our knowledge of the world is always mediated through some disciplinary perspective or other. Whether you want to stick to one perspective, that is the still dominant legal perspective as defended by positivism, or try to transcend this perspective by confronting it with other (sociological, ethical, economical etc.) perspectives is a matter of personal choice – a choice that will depend on your convictions on fundamental philosophical issues.

At the two extremes of our model of interdisciplinarity, there are two pitfalls that in our view need to be avoided: at the one end, the rigidity and closedness of a strict monodisciplinary approach and, at the other end, too much flexibility and openness that may result in an undifferentiated and undifferentiating fusion and confusion of perspectives. Between these extremes, meaningful exchanges between different disciplines are possible, as will be shown in the following chapters. However, these exchanges will not always be peaceful, since different disciplines will use concepts and methods differently, or may at first not recognize each other's methods, and so on. From these clashes, new insights may spring.

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